

ABSTRACT

An engine (10) exhausts gas (15) which is in turn exhausted through an exhaust pipe (110) in a prescribed direction. A cooling water pump (230) supplies cooling water to circulate a refrigerant through each of cooling water circulation paths (250, 260). The cooling water circulation path (260) includes a cooling water pipe (265) arranged along the exhaust pipe (110) to pass the cooling water. At stacks (ST1-ST3) a plurality of thermoelectric power generation elements are attached to the exhaust pipe (110) and the cooling water pipe (265) successively in a direction from the upstream toward downstream of the exhaust gas (15). The cooling water pipe (265) and the exhaust pipe (110) pass the cooling water and the exhaust gas (15), respectively, in opposite directions so that the downstream stack (ST3) has an increased difference in temperature between the exhaust pipe (110) and the cooling water pipe (265), and the stacks provide power outputs having a reduced difference, and hence an increased total power output. Thus an exhaust heat recovery power generation device can provide increased thermoelectric conversion efficiency without complicated piping.